Awards recognize outstanding innovation in Technology Transfer

August 8, 2011

LOS ALAMOS, New Mexico, August 8, 2011—The 13th Annual Outstanding Innovation Technology Transfer Awards reception honored Laboratory inventors of patented, licensed, and copyrighted technologies for their important role in transferring science and technology from Los Alamos National Laboratory to industry. The awards reception took place on August 4, 2010 at Fuller Lodge in downtown Los Alamos.

The commercialization of technologies developed at the Lab helps to strengthen U.S. economic security by creating jobs and enhancing U.S. industrial competitiveness. As Secretary of Energy Steven Chu said recently about technology transfer, "This is part of the reason we are being funded… now, more than ever, scientists, both in research universities and national labs will need to come to the aid of our country.

Laboratory Director Charles McMillan and Principal Associate Director for Science, Technology and Engineering Terry Wallace recognized and thanked Laboratory scientists for their innovations in science and service to the nation, followed by announcements of the distinguished award winners by Deputy Principal Associate Director for Science, Technology and Engineering Duncan McBranch. The event concluded with the keynote address by Michael Roach, president of CleanAIR Systems, Inc., a leader in air pollution control. The company executed an exclusive license with the Lab for the ENDURE™ SCR Catalyst, which reduces nitrogen oxide emissions by up to 95%, and was acquired by Caterpillar Emissions Solutions in 2010.

Awards were presented for distinguished accomplishments in patenting, licensing, copyright, programmatic impact, and regional impact during fiscal year 2010.

The distinguished patent award honors inventors whose patented invention exhibits significant technical advance, adaptability to public use, and noteworthy value to the mission of the Lab. This year's winners are James Werner, Peter Goodwin, and Andrew Shreve of the LANL Center for Integrated Nanotechnologies for their patent on an apparatus and method that incorporates selective, two-photon activation flourophores with time-gated imaging to reduce background radiation and to achieve three-dimensional imaging at nanometer resolution.

The distinguished licensing award honors innovators who proactively engage in commercialization activities at the Lab and who have had a positive impact on the Laboratory's licensing program. Dipen Sinha of the Materials Physics and Applications Division wins the award this year. His several decades of work in acoustic technologies has been applied in numerous application areas, ranging from biomedicine to oil and gas exploration. Sinha's dedication to this field of research has resulted in six commercial license agreements, 11 collaborative projects, three sponsored research

agreements, three user facility agreements, and 41 new invention disclosures, 18 of which have been issued as U.S. patents thus far. Furthermore, two northern New Mexico startup companies have formed around Sinha's portfolio of work, providing benefit to the regional economy.

The distinguished copyright award honors the authors of disclosed copyrighted materials that are considered extraordinary creations, demonstrating a breadth of commercial applications, potential to create economic value, and the highest level of technical excellence. This year's winner is presented to the Computational Fluid Dynamics code, "KIVA-4mpi," copyrighted by David Carrington and David Torres of the Fluid Dynamics and Solid Mechanics Group. The software predicts complex fuel and air flows as well as ignition, combustion, and pollutant-formation processes in engines and has been used to optimize diesel engines for high efficiency and low emissions. Currently, KIVA is used by hundreds of institutions, including the Big Three U.S. auto makers, Cummins, Caterpillar, and various federal laboratories.

The programmatic impact award honors individuals or groups who have made advancements to the programmatic mission of the Lab through their interactions with industry partners through a technology transfer mechanism such as a Cooperative Research and Development Agreement, Work for Others, Licensing, User Facility Agreement, or Memorandum of Understanding. Harshini Mukundan, Basil Swanson, Aaron Anderson, and Kevin Grace, all of whom work in Physical Chemistry and Applied Spectroscopy, are this year's recipients of the award for their efforts in the optical waveguide platform to accurately identify disease, in particular the biomarkers associated with tuberculosis. The system aids researchers' understanding of these biomarkers, which increases the ease and accuracy of prognosis, and improves several of the major attributes required to be a robust field-deployable device, including portability, short time for results, and high specificity.

The regional impact award honors individuals, organizations, or programs that have made a significant, demonstrated contribution to the northern New Mexico economy. This year's award is given to Michael Caffrey and Joseph Palmer for the Adaptive Bit Rate Radio. Caffrey was the principal investigator for the Adaptive Radio project and, with the help of $100,000 in Laboratory venture acceleration funding, licensed the technology and spun-out Adaptive Radio Technologies to commercialize the invention. Dr. Palmer was co-investigator for project and developed the key techniques that enable the adaptive radio. The radio, marketed as the Firehose Communications System, is a ground-breaking satellite communications system for space, weight, and power-constrained applications. This system uses a new waveform to increase communications bandwidth 10 times or more for the same amounts of power, volume and mass.